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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/761,125	01/16/2001	Bernard G. Harter	3174-000005	2908

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Harness, Dickey & Pierce, P.L.C.
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Bloomfield Hills, MI 48303

EXAMINER

LAM, THANH

ART UNIT	PAPER NUMBER
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2834

DATE MAILED: 12/09/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.
09/761,125

Applicant(s)
Harter et al.

Examiner
Thanh Lam

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on Amndt. 10/7/2002 and IDS 11/22/2002

2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) 1-26 is/are pending in the application.

4a) Of the above, claim(s) 23-26 is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) 1-22 is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) ☐ All b) ☐ Some* c) ☐ None of:

1. ☐ Certified copies of the priority documents have been received.

2. ☐ Certified copies of the priority documents have been received in Application No. _____.

3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

*See the attached detailed Office action for a list of the certified copies not received.

14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

a) ☐ The translation of the foreign language provisional application has been received.

15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

4) ☐ Interview Summary (PTO-413) Paper No(s). _____

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

5) ☐ Notice of Informal Patent Application (PTO-152)

3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s). 10

6) ☒ Other: attachment

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DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-22 are rejected under 35 U.S.C. 102(b) as being anticipated by Parshall.

Parshall discloses a stator plate for a stator segment assembly of a stator of an electric machine comprising: an outer rim section (18) that includes a radially inner surface (marked in red ink of the sectional enlarged fig. 1); a tooth (17,19) section extending radially inwardly from said outer rim section; and a first undercut portion (marked in red ink of the sectional enlarged fig. 1) that is formed in said radially inner surface of said outer rim section and that receives winding wire (39).

Regarding claim 2, Parshall discloses said first undercut portion is adjacent to said tooth section and wherein said outer rim section is generally perpendicular to said tooth section.

Regarding claim 3, Parshall discloses said first undercut portion increases slot area and allows additional winding wire to be wound around said tooth section.

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Regarding claim 4, Parshall discloses said first undercut portion provides clearance for a start turn of winding wire on said stator segment.

Regarding claim 5, Parshall discloses said first undercut portion is generally "U"-shaped.

Regarding claim 2, Parshall discloses said stator is formed by a plurality of stator plates.

Regarding claim 7, Parshall discloses stator segment assembly for a stator of an electric machine comprising: a stator core including a stack of stator plates (laminated core 16), each of said stator plates including an outer rim section, a tooth section extending radially inwardly from said outer rim section, a radially inner surface of said outer rim section that is generally perpendicular to said tooth section, and a first undercut portion that is formed in said radially inner surface of said outer rim section and that receives winding wire.

Regarding claim 8, Parshall discloses a first end cap attached to a face surface of said stack and having a radially outer section, a middle section extending radially inwardly from a center portion of said radially outer section, and an inner section connected to said middle section, wherein a radially inner surface of said outer section is generally perpendicular to sides of said middle section, and wherein said radially inner surface of said radially outer section includes a third undercut portion that is adjacent to said center portion of said radially outer section.

Regarding claim 9, Parshall discloses first and second end caps that are located adjacent opposite face surfaces of said stack, wherein said first and second end caps include third and fourth undercut portions that register with said first undercut portion of said stack.

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Regarding claim 10, Parshall discloses windings that are wound around said first and second end caps and said stack.

Regarding claim 11, Parshall discloses an insulating material that is located between said windings and said stack.

Regarding claim 12, Parshall discloses a tongue formed in one circumferential end of said outer rim section and a groove formed in an opposite circumferential end of said outer rim section.

Regarding claim 13, Parshall discloses said tongue and said groove are "V"-shaped.

Regarding claim 14, Parshall discloses said tongue and said groove are "C"-shaped.

Regarding claim 15, Parshall discloses said electric machine is a brushless permanent magnet motor.

Regarding claim 16, Parshall discloses said electric machine is a switched reluctance motor.

Regarding claim 17, Parshall discloses a second undercut portion in said radially inner surface of said outer rim section.

Regarding claim 18, Parshall discloses said first undercut portion provides sufficient clearance for a plurality of winding turns.

Regarding claim 19, Parshall discloses a stator segment assembly for an electric machine comprising: a stack of stator plates that are generally "T"-shaped and include an outer rim section (18), a tooth section (17,19) that extends radially inwardly from a center portion of said outer rim

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section, a radially inner surface (marked in red ink of the sectional enlarged fig. 1) of said outer rim section that is generally perpendicular to said tooth section, and a first undercut portion (marked in red ink of the sectional enlarged fig. 1) in said radially inner surface of said outer rim section that is adjacent to said center portion and that is generally "U"-shaped.

Regarding claim 20, Parshall discloses shaped and includes an outer section, an end cap that is generally "T" a middle section extending inwardly from a center portion of said outer section, and an inner section, wherein a radially inner surface of said outer section of said end cap is generally perpendicular to sides of said middle section, and wherein a second undercut portion is formed in said radially inner surface of said outer section and is adjacent to said center portion of said outer section.

Regarding claim 21, Parshall discloses first and second insulating end caps that are attached to opposite face surfaces of said stack.

Regarding claim 22, Parshall discloses windings that are wound around said first and second end caps and said stack; and an insulating material that is located between said windings and said stack.

3. Claims 19-22 are rejected under 35 U.S.C. 102(b) as being anticipated by Suzuki.

Regarding claim 19, Suzuki discloses a stator segment assembly for an electric machine comprising: a stack of stator plates that are generally "T"-shaped and include an outer rim section (2), a tooth section (4) that extends radially inwardly from a center portion of said outer rim section, a radially inner surface of said outer rim section that is generally perpendicular to said

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tooth section, and a first undercut portion (6c) in said radially inner surface of said outer rim section that is adjacent to said center portion and that is generally "U"-shaped.

Regarding claim 20, Suzuki discloses shaped and includes an outer section, an end cap that is generally "T" a middle section extending inwardly from a center portion of said outer section, and an inner section, wherein a radially inner surface of said outer section of said end cap is generally perpendicular to sides of said middle section, and wherein a second undercut portion is formed in said radially inner surface of said outer section and is adjacent to said center portion of said outer section.

Regarding claim 21, Suzuki discloses first and second insulating end caps that are attached to opposite face surfaces of said stack.

Regarding claim 22, Parshall discloses windings that are wound around said first and second end caps and said stack; and an insulating material that is located between said windings and said stack.

Response to Arguments

4. Applicant's arguments with respect to amended claims 1-18 have been considered but are moot in view of the new ground(s) of rejection.

5. Applicant's arguments filed 10/7/2002 respect to claims 19-22 have been fully considered but they are not persuasive.

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In response to applicant's argument regarding claim 19, that Suzuki does not show "a first undercut portion in said radially inner surface of said outer rim section adjacent to said center portion "

Examiner submits that Suzuki discloses a first undercut portion (6c) in said radially inner surface of said outer rim section (2) adjacent to said center portion because the term "adjacent" does not clearly or physically defined the distance between the subject matters. Therefore, the undercut portion (6c) of Suzuki is considered adjacent to the center portion of the tooth 4.

Conclusion

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thanh Lam whose telephone number is (703) 308-7626. The fax phone number for this Group is (703) 305-3432.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0656.

A handwritten signature in black ink, appearing to read 'Thanh Lam', with a long horizontal line extending to the left.

Thanh Lam

Patent Examiner